REMARKS

Reconsideration and withdrawal of the rejections of this application and consideration and entry of this paper are respectfully requested in view of the herein remarks, which place the application in condition for allowance.

I. STATUS OF CLAIMS AND FORMAL MATTERS

Claims 14, 15 and 17-20 are pending in this application. Claims 19 and 20 have been added which further describe the post-emergent herbicide and is supported in the specification (see e.g., Examples 46 and 47). No new matter has been added.

It is submitted that the claims, herewith and as originally presented, are patentably distinct over the prior art cited in the Office Action, and that these claims were in full compliance with the requirements of 35 U.S.C. § 112. The amendments of the claims, as presented herein, are not made for purposes of patentability within the meaning of 35 U.S.C. §§§§ 101, 102, 103 or 112. Rather, these amendments and additions are made simply for clarification and to round out the scope of protection to which Applicants are entitled.

II. THE 35 U.S.C. §102 REJECTIONS HAVE BEEN OVERCOME

Claims 14, 15, 17 and 18 were rejected as allegedly being anticipated by Narayanan et al. (U.S. Patent 5,231,070 - "Narayanan").

Claims 14, 15, 17 and 18 were properly rejected as being anticipated by Sanders (U.S. Patent 5,635,447)

Response to Examiner's Arguments and Background to Applicants' Arguments on Appeal

It appeared that the Office maintained their rejection on the presumption that the mere mention of pre-emergent use or post-emergent use in both the Narayanan and Sanders references anticipated the applicants' claims. However, the terms "pre-emergent herbicide" and "post-emergent herbicide" have distinct meaning in the art. By way of example, the applicants provide a copy of the definition of these terms from the Department of Horticulture and Crop Science at the Ohio State University which states:

pre-emergent herbicide: a pesticide that kills plants as they germinate

post-emergent herbicide: a pesticide that kill plants after they have grown to seedling stage or beyond.

Absent evidence to the contrary one of ordinary skill in the art reading the references would interpret this to mean that pre-emergent use in Narayanan or Sanders would require a pre-

emergent herbicide. This is most clearly borne out in col. 3, lines 15-18 of Sanders ("It may be used as a preemergent or postemergent application, ***depending on the herbicide chosen***." (emphasis added - i.e. the presumption is that one of ordinary skill in the art would use a preemergent herbicide for preemergent use). There is no suggestion in these references (or in the prior art) that one could mix and match pre-/post-emergent herbicides with pre-/post-emergent uses.

Moreover, the state of the art had presumed that such mixing and matching would be ineffective (see e.g. "Garden Answers" from Bookcliff Gardens Nursery & Lansdscape, http://www.bookcliffgardens.com/answercenter/weeds.htm - "Pre-emergents [herbicides], as the name implies, must be applied BEFORE the seeds germinate and must be watered in well. If you're seeing seedlings it's too late."). The declaration by Dr. Udo Bickers also supports this position, i.e. the attempt to use two known post-emergent herbicides with prior art liquids (paraquat and glyphosate) under pre-emergent conditions failed to achieve any herbicidal effect. Only when specific carriers encompassed by the present invention were used was the post-emergent herbicide able to show herbicidal effects.

The PTO has the initial evidentiary burden to support the positions advocated in their rejections and to date there has been no evidence to support their opinions. The applicants request this evidence be presented with the next office action especially in light of the further evidence presented by the applicants.

The present rejection is based on anticipation. However, even if the rejection were to be amended to one of obviousness, the positions above would be equally relevant as it was also unobvious to use a post-emergent herbicide in a pre-emergent fashion and the applicants have provided evidence of unexpected results by way of the declaration by Udo Bickers which shows that surprisingly, a post-emergent herbicide can be used pre-emergently.

The applicants have provided the arguments presented in the Appeal Brief for the Examiner's convenience for reconsideration in light of the comments made above.

III. ARGUMENTS FROM APPEAL BRIEF

A. Standard of Review for Anticipation Rejections

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); see also MPEP

2131. Moreover, "[t]he single reference must describe and enable the claimed invention, including all claim limitations, with sufficient clarity and detail to establish that the subject matter already existed in the prior art and that its existence was recognized by persons of ordinary skill in the field of the invention." *Crown Operations International, Ltd. v. Solutia Inc.*, 289 F.3d 1367, 1375, 62 USPQ2d 1917, 1921 (Fed. Cir. 2002).

B. Claims 14, 15 and 18 are not anticipated by either Narayan or Sanders

1. Every element of the claimed invention has not been taught

Claims 14 and 15 are method claims and include the elements of "controlling the growth of undesirable harmful plants pre-emergently with a post-emergence herbicide, said method comprises applying a herbicidal composition to an environment where said undesirable plant will reside prior the emergence of said harmful plants".

Both the Narayan and Sanders references lack two elements from the above described portion of claims 14 and 15:

(a) Narayan:

(i) teaches a method of inhibiting the leaching of an active plant growth regulating agrichemical NOT controlling the growth of undesirable harmful plants pre-emergently;

(ii) does NOT teach that controlling the growth of undesirable harmful plants pre-emergently can be accomplished with a post-emergence herbicide;

(b) Sanders:

(i) teaches enhancing the absorption/penetration of an herbicide into a plant cell/tissue NOT controlling the growth of undesirable harmful plants pre-emergently;

(ii) does NOT teach that controlling the growth of undesirable harmful plants pre-emergently can be accomplished with a post-emergence herbicide

(Both Narayan and Sanders also do not teach the compositions used claims 14 and 15. However, given that the above elements are not taught, this is a moot point. The arguments below regarding the composition of claim 17 can also be considered to be repeated here.)

2. There is no factual support for reliance on inherent properties or for the Examiner's opinions regarding the Narayan and Sanders references

Whether an invention is anticipated is a question of fact. *Hoover Group, Inc. v. Custom Metalcraft, Inc.*, 66 F.3d 299, 302, 36 USPQ2d 1101, 1103 (Fed. Cir. 1995).

The Examiner's office actions never indicated that either Narayan or Sanders taught controlling the growth of undersirable weeds pre-emergently. Therefore, it can only be presumed that the Examiner believes that the method of use taught in Narayan or Sanders inherently encompasses controlling the growth of undersirable weeds pre-emergently.

With regard to inherency, MPEP 2112, sec. IV (Requirements of Rejection Based on Inherency; Burden of Proof) states in part "The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993).....To establish inherency, the **extrinsic evidence** '**must make clear** that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. **The mere fact that a certain thing may result from a given set of circumstances is not sufficient.**'" *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999)(citations omitted). The appellants cannot comment on the extrinsic evidence because no extrinisic evidence has been provided by the Examiner which serves to provide factual support for the Examiner's position that the method of use taught by Narayan and Sanders inherently teaches the appellants' method of use.

There is also no factual support for the Examiner's opinion that Narayan and Sanders, by teaching application of compositions pre- and post-emergently, meet the limitations of claims 14 and 15, i.e. controlling the growth of undesirable harmful plants pre-emergently can be accomplished with a post-emergence herbicide. Both the Narayan and Sanders reference teach the use of herbicides for their art-recognized effects, i.e. use of a **pre-emergent** herbicide to treat harmful plants **pre-emergently** or the use of **post-emergent** herbicide to treat harmful plants **post-emergently**. Narayan and Sanders do not teach the use of **POST-emergent** herbicides to treat harmful plants **PRE-emergently**. If there is a factual basis which indicates otherwise, it has not been presented by the Examiner.

The Examiner's statement on page 2, lines 13-14 of the final rejection that there is no express teaching in Narayan which indicates that post-emergent herbicides cannot be used pre-emergently stands the PTO's evidentiary burden on its head, i.e. it is the initial burden of the

Office to show that the claimed invention was taught and anticipated by Narayan and Sanders NOT for the appellant to prove what was not taught by Narayan and Sanders. The fact that the Examiner cannot affirmatively show the appellants' claim element of controlling the growth of undesirable harmful plants pre-emergently being accomplished with a post-emergence herbicide exists from with the Narayan and Sanders reference is also evidence that Narayan and Sanders fails the "sufficient clarity and detail" test for establishing anticipation, i.e. without the appellants' claims to serve as a treasure map, one of ordinary skill in the art would not have recognized the claimed subject matter already existed within Narayan and Sanders (because it does not exist) and that its existence was recognized by persons of ordinary skill in the field of the invention."

Therefore, because Narayan and Sanders do not teach every element of the appellants' invention and/or because there is no factual support for the Examiner's opinions regarding anticipation or inherency, the rejection of claims 14 and 15 based on anticipation was improper and should be REVERSED.

C. Claims 17 is not anticipated by either Narayan or Sanders

While the Narayan and Sanders references have a broad recitation for the use of a post-emergence herbicide and a carrier material, these references do not anticipate the claimed compositions as they fail the "sufficient clarity and detail" test.

Both Narayan and Sanders have broad recitations regarding the nature of carrier material such that they could be viewed as encompassing of polymers based on acrylic acid or methacrylic acid. However, it is readily apparent that Narayan and Sanders preferred carriers (N-alkenyl lactam homopolymers and polyaspartic acid respectively) are not those claimed by the appellants. The appellants are not asserting that teachings besides the claimed invention of Narayan and Sanders cannot be considered. Rather, because Narayan and Sanders refers to a large genus of alternative carriers, there is no reason to select the carriers claimed by the appellants when the teaching of the prior art were so clearly directed to N-alkenyl lactam homopolymers (Narayan) and polyaspartic acid (Sanders). Therefore, there was never any teaching with sufficient clarity and detail that would indicate to one of ordinary skill in the art that a post-emergent herbicide could be combined with a carrier material selected from the group consisting of fuller's earth, aerogels, high-molecular weight polyglycols, and polymers based on acrylic acid, methacrylic acid and copolymers thereof.

In addition, it is not taught with sufficient clarity or detail that the amount of post-emergent herbicide combined with a carrier material selected from the group consisting of fuller's earth, aerogels, high-molecular weight polyglycols, and polymers based on acrylic acid, methacrylic acid and copolymers thereof is the same or is encompassed by the teaching of Narayan and Sanders. There are several wrinkles in this analysis that it cannot be readily assumed that Narayan and Sanders are inherently teaching the same composition.

Firstly, the intended method for using these compositions are different as was described above. Therefore, it is the Examiner's burden to show that an effective amount of post-emergence herbicide is the same as the amount of post-emergence herbicide used to inhibit leaching as in Narayan or enhancing the absorption/penetration of an herbicide as in Sanders when used in combination with a carrier material selected from the group consisting of fuller's earth, aerogels, high-molecular weight polyglycols, and polymers based on acrylic acid, methacrylic acid and copolymers thereof. No evidence has been presented to show that this is true.

Secondly, based on the teachings of Narayan and Sanders, one of ordinary skill in the art would be motivated to use post-emergence herbicides for their art recognized purpose, i.e. to treat harmful plants post-emergently. There is no evidence or indication from Narayan and Sanders that this amount of **POST**-emergence herbicide would be the same or encompassed by the amount of post-emergence herbicide necessary to treat harmful plants **PRE**-emergently.

As stated above, establishing an anticipation rejection based on inherency must also rely on extrinsic evidence not possibilities or probabilities and there has never been any evidence which supports the Examiner's assumptions based on inherency.

Therefore, the herbicidal compositions of claim 17 is not anticipated because the carrier system and the amount of post-emergent herbicide used in combination with the carrier system is not disclosed with specific clarity or detail and because positions regarding inherency have only been supported with general assumptions and not extrinsic evidence. This rejection should also be properly REVERSED.

CONCLUSION

In view of the remarks and amendments herewith, the application is believed to be in condition for allowance. Favorable reconsideration of the application and prompt issuance of a Notice of Allowance are earnestly solicited. The undersigned looks forward to hearing favorably from the Examiner at an early date, and, the Examiner is invited to telephonically contact the undersigned to advance prosecution. The Commission is authorized to charge any fee occasioned by this paper, or credit any overpayment of such fees, to Deposit Account No. 50-0320.

Respectfully submitted,
FROMMER LAWRENCE & HAUG LLP

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Attachments: Copy of definition of "post-emergent herbicide" and "pre-emergent herbicide" from the website of the Department of Horticulture and Crop Science of the Ohio State University (http://www.hcs.ohio-state.edu/mg/manual/glossary.htm)
Copy of "Garden Answers - Weeds" from the website of Bookcliff Gardens Nursery and Landscape (http://www.bookcliffgardens.com/answercenter/weeds.htm)
Copy of declaration by Udo Bickers

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Site Index

Nymph - a stage or series of size changes between egg and adult in the life cycle of insects that go through incomplete or simple metamorphosis.

Organic - of plant or animal origin.

Ovary - the swollen bottom part of the pistil that contains the ovules or immature seeds.

Oxygen, O_2, - a colorless, tasteless, odorless gas that is 1/5 of the volume of the atmosphere.

Parasitic - an organism that lives on or in another living organism (the host) and obtains nutrition from the host.

Pathogen - a disease-causing organism.

Pelletized - the coating and forming into pellets of very small seed so they are easier to handle.

Penetration - the point at which a pathogen enters a host.

Perennial ryegrass - a cool-season turfgrass with seeds that germinate quickly. The cultural requirements are similar to those of Kentucky bluegrass; however, it is not quite as hardy or disease resistant as bluegrasses.

Perennials - plants that do not die after flowering, but live from year to year.

Petals - a whorl of structures that surround the inner reproductive organs of a flower. Together they are called the corolla. They often attract insects by color or nectar, facilitating pollination.

Pheromone - a chemical substance that convey information to and produce specific responses in certain animals.

Phloem - the part of the vascular system that moves food through the plant.

Photoperiodism - responses of plants to the relative lengths of light and dark cycles.

Photosynthesis - the production of sugar from carbon dioxide and water in the presence of chlorophyll, activated by light energy and releasing oxygen.

Phototropism - the bending of a plant toward the direction of more intense light.

Pinch - breaking off the terminal growing point of a plant to encourage axillary buds to grow.

Pistil - the female part of the flower, consisting of one or more carpels and enclosed ovules.

Pollard - a tree cut back to the trunk to make a dense cluster of branches and foliage.

Pollen - the microspores that carry the male gametophyte of seed plants.

Pollination - the transfer of pollen from the anther to the stigma.

Pollinator - an insect or other vehicle by which pollen is carried from one flower to another. A plant that provides pollen for a self-infertile plant.

Post-emergent herbicide - a pesticide that kills plants after they have grown to seedling stage or beyond.

Potpourri - a mixture of dried flower petals with herbs and spices used for its fragrance.

Potting medium - material used for growing plants in containers. Mixes may include vermiculite, perlite, sand, , charcoal, loam and fertilizer.

Pre-emergent herbicide - a pesticide that kills plants as they germinate.

Primocanes - on raspberries and blackberries, new, first-year canes.

Procumbent - having stems that trail along the surface.

Propagation - to increase the number of plants by sexual or asexual means**Protozoans** - organisms made up of a single cell or a group of basically identical cells.

Prune - to cut back parts of plants for better shape, disease control or improved fruiting.

Pupa - a stage in complete metamorphosis when an insect transforms from the larval to adult stage of development.

Raised bed - a gardening area where the soil has been elevated above ground level. This gardening technique is especially used where soil drainage is poor. Beds can be raised in a structure of wood, brick, cement blocks, etc.

Rasping - mouthparts that are rough and used to scrape a surface to feed.

Reel mower - a mower with multiple blades mounted on a cylinder. The blades cut against a bar. It makes precise cuts and is ideal for lower mowing heights. The blades require professional sharpening. These mowers are safer to use than rotary mowers.

Renewal spur - on grapevines, the cane pruned to one or two nodes on the cordon; becomes the fruiting cane the following year.

Renovation - removing an old planting and putting in a new one or removing and replacing only part of a planting. In strawberry culture, this process involves removing the leaves of the plants and cultivating the aisle to reduce the width of the row of plants to no more than 15 inches.

Respiration - the process where food is oxidized (burned) to release energy.

Rhizome - an underground, horizontal stem.

Root - the portion of the plant usually found below ground. They are distinguished from stems by not having nodes.

Root girdling - encircling roots at or below the surface of the ground that tend to strangle the plant.

Root hairs - tubular outgrowths of surface cells of the root.

Root prune - to cut back the roots of a plant to encourage them to develop more fibrous roots or to reduce the mass of roots. Usually done before transplanting established plants or repotting houseplants.

Rooting hormone - a chemical that stimulates the growth of roots.

Rootstock - the root onto which a scion or bud is grafted or budded.

Rotary mower - a mower with a blade that spins in a horizontal plane from a central rod. Its advantages are the ability to cut tall grass, versatility of movement, a less expensive purchase price and blades that can be easily sharpened.

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Garden Checklist

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Planting Guides
- Asparagus
- B & B Trees
- Berries
- Cuttings
- Evergreen Trees & Shrubs
- Fruit Trees
- Garlic
- Grapes
- Planting A New Lawn
- Onions
- Ornamental Grasses
- Potatoes
- Roses
- Shade & Ornamental Trees
- Flowering Shrubs
- Vines

Garden Questions
- Annuals
- Berries & Grapes
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- Ponds
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- Soil, Mulch & Compost
- Fruit Trees
- Shade & Ornamental Trees
- Vegetables & Tomatoes
- Vines
- Weeds

Garden Answers

Weeds

Preventative early Spring weed killer?
How to get rid of bermuda grass?
How do I get rid of bindweed?
I heard about a bug that eats bindweed. Can that be right?
How should I get rid of an elm tree growing in a shrub?
How do I get rid winter grass coming up all over my garden?
Is there anything I can do to prevent weeds?
How do I kill foxtails?
How do I kill grass growing through shrubs?

Question: I've had a terrible problem with weeds the past few years, and my neighbor said there's a weed killer I should be using in early Spring. What is it and how do I apply it?

Answer: Your neighbor's probably talking about a pre-emergent herbicide. Pre-emergents work by killing seed as it germinates. They're wonderful at controlling annual weeds. (Annual weeds live for a season, die, and leave seeds that perpetuate them.)

Before you rush out and buy a pre-emergent, however, you need to determine exactly what kind of weeds you actually have. If you're not sure, grab some of the dried-out weeds left in your yard, and we'll be happy to try to identify them for you. Identification is crucial, because while pre-emergents will work wonders on your annual weeds, you'll be disappointed if you have perennial weeds: pre-emergents won't do diddly-squat to them!

Furthermore, there are actually two different types of pre-emergent which work on vastly different types of weeds. Portrait works on broadleaf weeds such as spurge, chickweed, and other broadleaf weeds. Hi-Yield Crabgrass Control works on annual grassy weeds like crabgrass and foxtails. Unfortunately, there isn't yet a pre-emergent which will work for both broadleaf and grassy weeds, so knowing what you need is very important.

Pre-emergents, as the name implies, must be applied BEFORE the seeds germinate and must be watered in well. If you're already seeing seedlings it's too late. Another consideration is that different annual weeds germinate at different times of the season. For some weeds, you could actually apply your pre-emergent now, while the application to control spurge should be applied around April first. Consequently, you may need to apply pre-emergents at different times and may need repeat applications based upon the weeds you're trying to kill. I guess the bottom line is that it's difficult to make a blanket recommendation for applying pre-emergents. The best thing you can do is to be sure you know what kind of weeds you have before you begin.

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